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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,221	06/09/2005	Ray Burke	P-0205-PCT-PA	9405
22145 7590 10/16/2007 KLEIN, O'NEILL & SINGH, LLP 43 CORPORATE PARK SUITE 204 IRVINE, CA 92606			EXAMINER BAISA, JOSELITO SASIS	
			ART UNIT 2832	PAPER NUMBER
			MAIL DATE 10/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/538,221	<b>Applicant(s)</b> BURKE ET AL.	
	<b>Examiner</b> Joselito Baisa	<b>Art Unit</b> 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9, 11, 14-28, 32, 33, 35-41, 43, 45, 47-49, 55-66, 70 and 71 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11, 14-28, 32, 33, 35-41, 43, 45, 47-49, 55-66, 70 and 71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                 |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                            | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/9/2005</u> | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's arguments, see Response to Restriction/Election Requirement, filed 19 July 2007, with respect to Embodiment I, Figures 1-11 and Embodiment II, Figures 12-19 have been fully considered and are persuasive. The Restriction/Election Requirement of Species has been withdrawn. Claims 1-7, 9, 11, 14, 15, 16-28, 32, 33, 35-41, 43, 45, 47-49, 55-66, 70 and 71 are considered for prosecution.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16, 21, 55 and 60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites "...second terminal is insulated from the first metal layer and electrically connected to the second metal layer by a conductive channel which passes through and is insulated from the first metal layer and device material".

Applicant needs to explain if the second terminal needs to be insulated from the device material (PTC material). The second terminal, the second metal layer and the conductive channel are all electrically connected together and the second metal layer is not insulated from the device material.

Claims 21, 55 and 60 are similar cases.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 16-28, 32, 33 are rejected under 35 U.S.C. 102(a) as being anticipated by Chu et al. [6377467].

Chu discloses a first metal layer 12a,  
a second metal layer 12b  
at least one layer of device material 10 sandwiched between the first metal layer 12a and the second metal layer 12b which function as electrodes for the device material 10,  
a first terminal 16 for providing a first electrical connection to the device 10,  
a second terminal 18 for providing a second electrical connection to the device 10,  
wherein the first terminal 16 is electrically connected to the first metal layer 12a and the second terminal 18 is insulated from the first metal layer 12a and electrically connected to the second metal layer 12b by a conductive channel 15 which passes through and is insulated from the first metal layer [Col. 5, Lines 18-22, Figure 1].

With respect to claim 1, the claim is a method counterpart of structure of the rejected claims 16 and 17 and method steps therefore are inherent for manufacturing a conductive polymer device.

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Regarding claim 17, Chu discloses the conductive channel (13,15) comprises a metal plated channel [Col. 5, Lines 23-31, Figure 1].

Regarding claim 18, Chu discloses the second terminal 18 is insulated from the first metal layer 12a by a first layer of insulating material 14a [Col. 5, Lines 3-11, Figure 1].

With respect to claim 2, the claim is a method counterpart of structure of the rejected claims 18 and 19 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 19, Chu discloses the first layer of insulating material 14a substantially covers first layer of metal 12a [Col. 5, Lines 3-23, Figure 1].

Regarding claim 20, Chu discloses comprising a third layer of metal (18, 16) disposed on the first layer of insulating material 14a and where third layer (18, 16) is divided by an isolation area 24a to provide the first terminal 16 and the second terminal 18 [Col. 5, Lines 8-17, Figure 1].

With respect to claim 9, the claim is a method counterpart of structure of the rejected claim 20 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 21, Chu discloses a third terminal 16 (lower part of device) for providing a third electrical connection to the device, a fourth terminal 18 for providing a fourth electrical connection to the device, wherein the fourth terminal 18 is electrically connected to the second metal layer 12b and the third terminal 16 is insulated from the second metal layer 12b

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and electrically connected to the first metal layer 12a by a second conductive channel 13 which passes through and is insulated from the second metal layer 12b [Col. 5, Lines 13-25, Figure 1].

With respect to claim 11, the claim is a method counterpart of structure of the rejected claim 21 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 22, Chu discloses the second conductive channel 13 comprises a metal plated channel [Col. 5, Lines 23-31, Figure 1].

With respect to claim 3, the claim is a method counterpart of structure of the rejected claims 22 and 23 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 23, Chu discloses the third terminal 16 is insulated from the second metal layer 12b by a second layer of insulating material 14b [Col. 5, Lines 3-11, Figure 1].

With respect to claim 4, the claim is a method counterpart of structure of the rejected claims 23 and 24 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 24, Chu discloses the second layer of insulating material 14b substantially covers second layer of metal 12b [Col. 5, Lines 3-23, Figure 1].

With respect to claims 5 and 6, the claims are method counterpart of structure of the rejected claims 24 and 25 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 25, Chu discloses the fourth terminal 18 is electrically connected to the second metal layer 12b by an interconnect 15 formed through second layer of insulating material 14b [Col. 5, Lines 3-11, Figure 1].

Regarding claim 26, Chu discloses the second conductive channel 15 is provided at one end of the device [see Figure 1].

Regarding claim 27, Chu discloses the first conductive channel 13 and second conductive channel 15 are located at opposing ends of the device [see Figure 1].

With respect to claim 7, the claim is a method counterpart of structure of the rejected claim 27 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 28, Chu discloses the first conductive channel 13 is located at one end of the device [see Figure 1].

Regarding claim 32, Chu discloses at least one layer of device material comprises alternating layers of device material 10 and metal (12a, 12b) [Col. 4, Lines 31-41, Figure 1].

With respect to claim 13, the claim is a method counterpart of structure of the rejected claim 32 and method steps therefore are inherent for manufacturing a conductive polymer device.

Regarding claim 33, Chu discloses the device 10 is a PTC device and device material is a PTC material [Col. 4, Lines 42-51].

With respect to claim 14, the claim is a method counterpart of structure of the rejected claim 33 and method steps therefore are inherent for manufacturing a conductive polymer device.

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Regarding claim 55, Chu discloses a matrix (A, B) of electronic devices comprising: a first metal layer 12a, a second metal layer 12b at least one layer of device material 10 sandwiched between the first metal layer 12a and the second metal layer 12b which function as electrodes for the device material, a first array of terminals 16 for providing electrical connections to individual devices of the matrix, a second array of terminals 18 for providing electrical connections to individual devices of the matrix, herein the first array of terminals 16 are electrically connected to the first metal layer 12a and the second array of terminals 18 are insulated from the first metal layer and electrically connected to the second metal layer 12b by conductive channels 15 which pass through and are insulated from the first metal layer 12a [Col. 5, Lines 18-22, Figures 1 and 3a].

With respect to claims 35 and 49, the claims are method counterpart of structure of the rejected claim 55 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 56, Chu discloses the conductive channels (15, 13) comprise metal plated channels [Col. 5, Lines 23-31, Figures 1 and 3a].

Regarding claim 57, Chu discloses the second array of terminals 18 are insulated from the first metal layer 12a by a first layer of insulating material 14a [Col. 5, Lines 3-11, Figures 1 and 3a].

With respect to claim 36, the claim is a method counterpart of structure of the rejected claim 57 and 58 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.



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Regarding claim 58, Chu discloses the first layer of insulating material substantially covers said first layer of metal 12a [Col. 5, Lines 3-11, Figures 1 and 3a].

Regarding claim 59, Chu discloses a third layer of metal 24a disposed on the first layer of insulating material 14a and where the third layer is divided to provide the first array of terminals 16 and the second array of terminals 18 [see Figure 3a].

With respect to claims 43 and 45, the claims are method counterpart of structure of the rejected claim 59 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 60, Chu discloses a third array of terminals 16 for providing electrical connections to the individual devices, a fourth array of terminals 18 for providing electrical connections to the individual devices, wherein the fourth array of terminals 18 are electrically connected to the second metal layer 12b, and the third array of terminals 16 are insulated from the second metal layer 12b and electrically connected to the first metal layer 12a by a second array of conductive channels 13 which pass through and are insulated from the second metal layer 12b [see Figures 1 and 3a].

With respect to claims 39 and 40, the claims are method counterpart of structure of the rejected claim 60 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 61, Chu discloses the second array of conductive channels comprises metal plated channels [Col. 5, Lines 23-31, Figures 1 and 3a].

Regarding claim 62, Chu discloses the third array of terminals 16 are insulated from the second metal layer 12b by a second layer of insulating material 14b [Col. 5, Lines 3-11, Figures 1 and 3a].

With respect to claim 38, the claim is a method counterpart of structure of the rejected claims 62 and 63 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 63, Chu discloses the second layer of insulating material 14b substantially covers the second layer of metal 12b [Col. 5, Lines 3-11, Figures 1 and 3a].

Regarding claim 64, Chu discloses the fourth array of terminals 18 are electrically connected to the second metal layer 12b by interconnects 15 formed through second layer of insulating material 14b [Col. 5, Lines 3-11, Figures 1 and 3a].

With respect to claim 37, the claim is a method counterpart of structure of the rejected claim 64 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 65, Chu discloses each of the array of second conductive channels 15 (for A and B) is provided at an end of each device of the matrix [see Figure 3a].

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Regarding claim 66, Chu discloses each of the array of first conductive channels 13 and second conductive channels 15 are provided on opposing ends of each device (A and B) of the matrix [see Figure 3a].

With respect to claim 41, the claim is a method counterpart of structure of the rejected claim 66 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 70, Chu discloses at least one layer of device material comprises alternating layers of device material and layers of metal (12a, 12b)[Col. 4, Lines 31-41, Figure 1] and [Col. 5, Lines 32-38, Figure 3a].

With respect to claim 47, the claim is a method counterpart of structure of the rejected claim 70 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Regarding claim 71, Chu discloses the device is a PTC device and said device material is a PTC material [Col. 5, Lines 32-45, Figure 3a].

With respect to claim 48, the claim is a method counterpart of structure of the rejected claims 71 and method steps therefore are inherent for manufacturing a matrix of conductive polymer device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

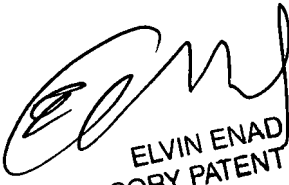
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joselito Baisa  
Examiner  
Art Unit 2832

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